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HOMEMAKERS' FOOD AND NUTRITION KNOWLEDGE, PRACTICES, AND OPINIONS

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HOMEMAKERS' FOOD AND NUTRITION KNOWLEDGE, PRACTICES, AND OPINIONS

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The Committee on Food Habits of the National Research Council (1)² noted in 1943 a gap between what we know about nutrition and what we practice. Since then little has been done to close this gap.

Studies are needed from which useful concepts on food habits of all people can be developed. Research on consumer knowledge and attitudes about individual commodities has been undertaken by the Department's Statistical Reporting Service (8-12) as well as by State agricultural experiment stations and market research groups. Other research on the food and nutrition knowledge, attitudes, and practices of homemakers has been conducted on a small scale in limited areas of the country (13-15).

The nationwide surveys of household food consumption conducted by the Consumer and Food Economics Institute provide information

on the food choices of households and individual members, but they were not designed to show why these choices were made. In the 1965 nationwide food consumption survey, fewer household diets met the Recommended Dietary Allowances than in the 1955 survey (2-6). Both surveys showed that high income alone did not insure nutritionally desirable diets. Many higher income families either do not know what constitutes such a diet or have no desire to select foods that provide such a diet.

The purpose of the study reported here was (1) to describe the knowledge, practices, and opinions of the homemaker regarding food and nutrition and (2) to investigate their interrelationships. In this publication these three items, as reported by homemakers, are discussed; they were not verified by observation. In other reports their interrelationships will be described.

PROCEDURES³

Sample Design

A probability sample of all private households in the United States, excluding Alaska and Hawaii, was used. Households below the poverty line were proportionately represented in the total population. A private household was one where cooking facilities were available.

¹ The authors acknowledge the technical assistance of Margaret Weidenhamer, Statistical Reporting Service (SRS), and Evelyn F. Kaitz, Economic Research Service (formerly of SRS), U.S. Department of Agriculture, in planning the project, developing the schedule, and monitoring the tabulation of the data.

² Italic numbers in parentheses refer to Literature Cited, p. 22.

The universe of households was sampled using a multistage stratified area probability design. At each stage the probability of selection was made proportionate to population size. The method was such that each household had an equal and known probability of being selected into the sample. Thus the sample was self-weighting for projecting to the universe within specific tolerance limits. The sampling

³ The development of the sampling procedures, construction of the data-gathering instrument, training of interviewers, collection of data, and preliminary analysis of data were performed by Crossley Surveys, Inc., New York, under contract with the Consumer and Food Economics Institute, Agricultural Research Service.

frame was stratified by geographic area, population density, and intercensal growth rate.

In the first stage, all counties in the United States were divided into nine census groups. The counties were next grouped into those in Standard Metropolitan Statistical Areas (SMSA's) and those that were not. Counties in SMSA's were stratified into five population levels, ranging from over 1 million to less than 100,000 population. Nonmetropolitan counties were divided into four groups according to level of urbanization, ranging from those that are 50 percent or more urbanized down to those with no urbanized place in the county. Nonmetropolitan counties were further subdivided into several groupings reflecting the estimated rate of intercensal growth. With probability proportionate to size, 80 primary sampling units were selected.

In the second stage, a sample of several hundred minor civil divisions (MCD's) was selected within the 80 primary sampling units. These MCD's fell into two groups, those in Bureau of Census Block Statistics Areas and all others. In MCD's not covered by block statistics, enumeration districts were selected with probability proportionate to size. The objective was to yield block clusters of approximately equal size. Therefore at this stage very small blocks and enumeration districts were combined with adjacent ones, and large blocks and enumeration districts were further subdivided using a random method.

For this survey 600 sample segments were selected, and within each sample segment 6 households were predesignated for interview, providing 3,600 households. No deviation from the specified procedures was permitted.

A differential callback procedure was used to obtain interviews. A minimum of four attempts was made on all households for an initial contact in urban areas and a minimum of three attempts in rural areas. No substitutions were permitted for sample households that did not give interviews (table 1). For the 3,600 assigned households, 2,545 interviews were completed.

Interview Schedule

The interview schedule was pretested in three cities in two sections of the country and in urban and rural areas to insure both its completeness and workability in the field. Included were questions to determine the respondents' knowledge of foods and nutrition. Questions were also asked about their opinions regarding selected practices of the household members, the foods consumed by each member of the household on 1 weekday and on 1 day of the weekend (half of the respondents reported on foods consumed on Saturday and half on foods consumed on Sunday), the frequency with which various categories of foods were served to the family, the number of persons in the family, and certain demographic information. (Appendix)

TABLE 1.—Interviews completed based on assigned households less unoccupied dwellings by type and size of community

Item	Total households		Households in metropolitan communities of—				Households in nonmetropolitan communities	
			1 million and over population		100,000 to 1 million population			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total assigned households	3,600	--	1,392	--	1,242	--	966	--
Unoccupied dwellings	191	--	60	--	77	--	54	--
Total occupied households	3,409	100	1,332	100	1,165	100	912	100
Results of attempted interviews:								
Completed	2,545	75	941	71	870	75	734	80
Not at home	268	8	130	9	84	7	54	6
Refused	384	11	182	14	132	11	70	8
Other	212	6	79	6	79	7	54	6

Interviews

Each interviewer was trained not only in general but also in specific techniques for the survey. Each one conducted a minimum of two practice interviews among nonsample respondents prior to the actual interviews using the final version of the interview schedule.

All data were collected late in July and in August of 1971 by personal interviews conducted in the home of the respondents.⁴ The average length of each interview was 60 minutes. The household member with major responsibility for the decisions on purchasing food for the household was interviewed.

To assist the interviewer and the respondent, cards containing the response format to certain questions and the actual statements of selected questions were given to the person being interviewed. The use of these cards was believed to increase the accuracy of the response and to decrease the time spent in repeating the question or the possible responses.

Data Handling

The data were coded and punched onto cards. Data were tabulated as percentage of respondents having various opinions or food-related practices in terms of community size, respondent's age and education, size of household, age and sex of individual household members, and household income. In addition, some data were tabulated as a percentage of 7,463 individuals, 5 years or over, living at home. To determine whether respondents of poverty households reacted the same as nonpoverty respondents, a group of households classified as probable poverty households was analyzed separately. A probable poverty household was defined by family income, family size, whether it was in a farm or nonfarm location, and the presence of a male head of household.⁵ Some households did not report their income, and they were classified on the basis of other information the respondent reported or that the interviewer could obtain.

RESULTS AND DISCUSSION

Demographic Variables and Their Interrelationships

Data were collected on more than 10 demographic and basic information variables by such means as direct questioning, interviewer's observations, and census records. Included in these variables were type and size of community, region, farm or nonfarm location, respondent's age, education, sex, and race, household size and income, head of household employment status, where respondent learned about nutrition, and which kitchen appliances were used. Since some respondents did not provide all the data, the number in each category may not total the number of households interviewed.

The 2,545 households participating in the

study were from the following types of community and regions of the country:

<i>Community</i>	<i>Number</i>	<i>Percent</i>
Large metropolitan -----	941	37
Small metropolitan -----	870	34
Nonmetropolitan -----	734	29
<i>Region</i>		
Northeast -----	675	26
North central -----	732	29
South -----	774	31
West -----	364	14

The participants were fairly evenly distributed across the three population density categories. Representation by geographic region was about equal for three of the four regions, with the western underrepresented. When classified as farm or nonfarm, 90 percent of the households were nonfarm, 7 percent were farm, and for 3 percent there was no answer.

⁴ Although the data on which this publication is based were collected in 1971, coding, tabulating, and initial analysis by the contractor were not submitted to the Department of Agriculture until 1973. The findings are still valid and useful as guidelines for developing additional research along similar lines.

⁵ The definition of poverty used was that issued by the U.S. Department of Commerce, Bureau of the Census Current Population Reports, P 60, No. 77, May 7, 1971.

The range in age and education of the respondents was wide, as shown in the following data:

<i>Age</i>	<i>Number</i>	<i>Percent</i>
Under 25	280	11
25-44	953	37
45-64	908	36
65 and over	399	16

<i>Education</i>	<i>Number</i>	<i>Percent</i>
Grade school or less	535	21
Some high school	505	20
High school graduate	866	34
Some college or more	632	25

Most were between 25 and 64 years and the largest number were high school graduates. Of the 2,545 respondents, 2,340, or 92 percent, were females and only 205, 8 percent, were males.

Most respondents, 84 percent, were Caucasian other than Spanish American, 5 percent were Spanish American, 9 percent were black, and the remainder were other races based on the interviewer's observations or no answer was given.

The household size and income were as follows:

<i>Household size (members)</i>	<i>Number</i>	<i>Percent</i>
1	382	15
2	732	29
3-4	885	35
5 or more	546	21

<i>Household income</i>	<i>Number</i>	<i>Percent</i>
Under \$6,000	860	34
\$6,000-\$9,999	638	25
\$10,000-\$14,999	654	26
\$15,000 and over	386	15

The household most frequently represented contained three to four members, and more households had an income under \$6,000. The family members, 5 years of age and older, in the 2,545 households totaled 7,463. In 25 percent of the households the respondent was the head of the household.

Two variables that provided some background information about the respondents were (1) where the respondent learned about nutrition and (2) which kitchen appliances were used. The respondents' source of nutrition information was as follows:

<i>Source</i>	<i>Respondents (percent)¹</i>
High school	41
Newspaper or magazine	29
Mother or grandmother	25
Grade school	12
College	10
Through experience	9
Doctor or other professional sources	7
Books	5
Friends or relatives other than mother or grandmother	4
Television or radio	3
Clubs or organizations	3
Place of employment	3
Other sources	4
Don't know or no answer	2

¹ Total more than 100 percent because more than 1 response was given.

Forty-one percent indicated they learned about nutrition in high school, 29 percent from newspapers or magazines, and 25 percent from mother or grandmother.

When presented with a list of six kitchen appliances and asked which items they used, essentially all respondents indicated a refrigerator or icebox, range burners and oven, and any kind of can opener. Approximately 90 percent used a freezer and a toaster and 80 percent a blender or a mixer.

Many of the demographic variables were related, such as household income and education of the respondent. Of those with grade school education or less, 68 percent lived in households where the income was under \$6,000 and only 3 percent where the income was \$15,000 or more. Approximately one-third of the respondents who had some college education lived in households where the income was at least \$15,000.

Income was related to "head of household." The higher the income the less likely the respondent was the head of household. Age of respondent and household size were also related to income. The older the respondent and the smaller the household the more likely the household income was under \$6,000. Of the respondents 65 years old and over, 75 percent had incomes under \$6,000 as compared with only 17 percent between 25 and 44 years of age. Also, the larger the household the larger the income.

The sex of the respondent was related to the size of the household. Almost half of the male

respondents were from one-member households as compared with approximately one-eighth of the female respondents. Fewer than one-tenth of the male respondents lived in families of five or more, whereas slightly more than one-fifth of the women respondents lived in five-member households. Household size and sex of respondent were both related to whether or not the respondent was the head of the household. The larger the family with the respondent a female the less likely the respondent was the head of the household.

Occupation of the head of the household was also related to several variables, especially household income and age and education of the respondent. As the occupational level along with age of the head of household increased, the higher were the household income and the education of the respondent and the less likely was the respondent also the head of the household.

Food and Nutrition Knowledge

Individuals responsible for making household food decisions were asked to respond to the following 18 statements designed to measure awareness of general nutrition facts as well as specific knowledge about the selection, handling, and preparation of food:

<i>Statement</i>	<i>Respondents answering correctly (percent)</i>
(1) To keep the best quality, all kinds of meat should be put in the refrigerator or icebox as soon as possible after they are bought. ----	98
(2) Good nutrition is necessary for good health. -----	97
(3) To help prevent losses in vitamins and minerals, vegetables should be cooked in as little water as possible and until just tender. ----	94
(4) Some foods can lose nutrient value by the way they are stored. --	92
(5) Refreezing frozen foods is not a good practice; they lose some of their good quality. They also may not be safe to eat. -----	91

(6) Ordinarily you can get all the vitamins you need from a well-chosen variety of foods that can be purchased in any well-stocked food store. ----- 89

(7) Some fruits and vegetables do not require refrigeration—a cool place will do. ----- 88

(8) Active people need more food than inactive people. ----- 86

(9) Each nutrient has specific uses in the human body. ----- 83

(10) You can lose weight by cutting down on the amounts of food eaten instead of cutting out any kinds of food. ----- 82

(11) Nutrition is the food you eat and how your body uses it. ----- 80

(12) Older people need just as much food as teenagers.¹ ----- 78

(13) Most nutrients do their best work in the body when teamed with other nutrients. ----- 69

(14) Food is the only source for the energy needed to work or play. 63

(15) Snacking can help meet nutritional needs. ----- 57

(16) Women and girls need just as much food as men and boys.¹----- 55

(17) Some foods by themselves have all the nutrients in the amounts needed for full growth or health.¹-- 51

(18) The darker outer leaves of vegetables like lettuce or cabbage should be used because they are especially rich in nutrients. ----- 45

¹ Incorrect statement.

The distribution of individual aggregate scores was as follows:

<i>Total score</i>	<i>Respondents answering correctly (percent)</i>
18 -----	3
17 -----	9
16 -----	16
15 -----	18
14 -----	18
13 -----	14
12 -----	10
Less than 12 -----	12

Only 3 percent responded correctly to all 18 statements. However, almost 90 percent answered at least two-thirds of the statements correctly. The mean number of correct responses was 14.5.

A closer inspection of individual statement scores revealed that high individual totals were based largely on a homemaker's knowledge of handling and storing foods to maintain nutritional value and quality and not on knowledge related to the nutrient content of food and differing nutrient needs of people depending on age and sex. Of the five statements to which more than 90 percent of homemakers responded correctly, four related to the storage and handling of food. Many homemakers held the mistaken belief that some foods by themselves have all the nutrients in the recommended amounts, or they were not aware that most nutrients work best in combination with other nutrients. Other low scores indicated that many homemakers were not aware that food is the only source of energy or that snacking can effectively upgrade a family's diet.

Application of Food and Nutrition Knowledge

Another dimension of food and nutrition knowledge was measured when the respondents were shown five daily food plans and asked their opinions of each day's plan in terms of its being nutritionally desirable or not and their reasons for these opinions. A day's food plan was considered to be nutritionally desirable if it contained at least the minimum number of servings of food from each of the four basic food groups recommended in the Department's "Food for Fitness—A Daily Food Guide" (7). Each day's food plan contained menus for three meals and sometimes snacks. All plans contained some foods from each of the four basic food groups, namely vegetable-fruit, meat, milk, and bread-cereal. The meat group includes meat, poultry, fish, eggs, dried beans and peas, lentils, nuts, and peanut butter. The milk group also is more inclusive and has milk of all types and products such as cheeses, ice cream, ice milk, and yogurt. However, two of the plans, B and D, were short in the number of food servings. Food plan B was short in three of the four basic food groups; the meat group was the

exception. Food plan D was short in both the bread-cereal and vegetable-fruit groups. Breads and cereals that are whole grained, enriched, or restored are the foods included in the bread-cereal group.

Today there is greater enrichment of bread-cereal products, including most crackers, rolls, and Italian bread, than when the data were collected. Thus food plans B and D might not be considered short in food servings from the bread-cereal group if they were evaluated now.

Most respondents, 97 percent, were willing to express an opinion on each day's food plan. This could be interpreted as a measure of confidence in their ability to recognize a nutritionally desirable diet. The percent of respondents correctly identifying the nutritional desirability of each day's food plan was as follows:

<i>Food plan</i>	<i>Respondents (percent)</i>
A -----	66
B -----	47
C -----	71
D -----	16
E -----	69

Plan D was more likely to be considered nutritionally desirable than any of the other four plans, but it was identified correctly by only 16 percent of the respondents. It included steak, baked potato, and salad in the evening meal, but for the day it was short in the number of servings from two food groups. Food plan B contained insufficient servings from three of the four basic food groups and was correctly identified by almost half of the respondents. Food plans A, C, and E, which contained both the kinds and at least the minimum number of food servings recommended for a day, were correctly recognized by about two-thirds of the respondents.

All the plans contained at least one food from each of the four basic food groups, but not all plans contained at least the minimum number of servings of food recommended from the various groups. For each day's food plan at least 50 percent of the people said it was nutritionally desirable. This would suggest either that the presence of one or more food types, rather than number of servings, affected respondents' evaluations or that evaluations were based more

on individual meals rather than the total day's food plan.

The reasons given for considering a day's food plan to be nutritionally desirable indicated that respondents thought in terms of kinds of food recommended for a nutritionally desirable diet rather than in terms of a good assortment of foods in desirable amounts. The

presence of either the meat or the vegetable-fruit group apparently had a disproportionately high effect on a favorable response (table 2). For each day's food plan approximately one-sixth of the respondents who considered the plan to be nutritionally desirable did not, or could not, give any reason for their opinions.

When asked why a day's food plan was not

TABLE 2.—*Respondents indicating 5 daily food plans were (1) nutritionally desirable and (2) not nutritionally desirable and their reasons¹*

Respondents' reasons	Respondents' evaluations of indicated daily food plans				
	A	B ²	C	D ²	E
	(N=1,667)	(N=1,311)	(N=1,808)	(N=2,106)	(N=1,755)
NUTRITIONALLY DESIRABLE					
Food plan has—					
Vegetables and fruits -----	{ number__ 993	568	806	977	808
	{ percent__ 60	43	44	46	46
Meat -----	{ number__ 842	539	646	884	602
	{ percent__ 50	41	36	42	34
Milk -----	{ number__ 676	256	489	381	447
	{ percent__ 40	20	27	18	25
Breads and cereals -----	{ number__ 207	166	190	385	261
	{ percent__ 12	13	10	18	15
All 4 groups -----	{ number__ 50	29	42	43	37
	{ percent__ 3	2	2	2	2
No answer -----	{ number__ 243	263	328	336	354
	{ percent__ 14	20	18	16	20
	A ²	B	C ²	D	E ²
	(N=845)	(N=1,199)	(N=700)	(N=403)	(N=745)
NOT NUTRITIONALLY DESIRABLE					
Food plan has—					
Not enough vegetables and fruits ----	{ number__ 242	590	270	226	211
	{ percent__ 29	49	38	56	28
Not enough meat -----	{ number__ 206	34	209	34	69
	{ percent__ 24	3	30	8	9
Not enough milk -----	{ number__ 28	77	3	20	4
	{ percent__ 3	6	(³)	5	(³)
Not enough breads and cereals -----	{ number__ 122	8	2	14	10
	{ percent__ 14	1	(³)	3	1
Too many carbohydrates, starches, sweets -----	{ number__ 119	696	208	90	328
	{ percent__ 14	58	30	22	44
No answer -----	{ number__ 232	123	92	72	181
	{ percent__ 27	10	13	18	24

¹ Since more than 1 response was possible, columns do not total N or 100 percent.

² Incorrect opinion.

³ Less than 1 percent.

nutritionally desirable, respondents generally mentioned a shortage in amounts of food (table 2). They were more likely to comment on vegetables and fruits than any other food group for all five food plans. Another reason mentioned by many people was that the day's food plans included too many carbohydrates, starches, and sweets. Of the people who considered that plan B was not nutritionally desirable, approximately 60 percent said the day's food plan contained too many carbohydrates, starches, and sweets. Those not giving reasons for why they considered each of the day's food plans to be nutritionally undesirable ranged from 10 percent for plan B to 27 percent for plan A.

Knowledge of Label Terminology

The respondents were also asked what foods they associated with the term "enriched." Their response was as follows:

<i>Foods associated with "enriched"</i>	<i>Respondents (percent)¹</i>
Bread -----	53
Cereals -----	29
Milk and cream -----	23
Flour -----	20
Dairy products other than milk and cream -----	12
Baked goods other than bread -----	11
Pasta -----	7
Fruit juices or fruit drinks -----	6
Grains -----	4
Rice -----	3
Puddings -----	2
None -----	15

¹ Total more than 100 percent because more than 1 response is possible.

Although 85 percent were able to associate one or more foods with the term "enriched," only 53 percent mentioned bread, 29 percent cereals, 20 percent flour, and 11 percent other baked goods. Only 3, 4, and 7 percent of the respondents mentioned rice, grains, and pasta, respectively.

The term "enriched" refers only to cereal products for which the U.S. Food and Drug Administration has established a standard of identity and to which specified amounts of thiamin, riboflavin, niacin, and iron have been added. However, many people apparently think of "enriched" as synonymous with "fortified," since 23 percent mentioned milk and cream, 12

percent other dairy products, and 6 percent fruit juices or fruit drinks.

Family Food Practices

Weekday and Weekend Day Intake of Four Basic Food Groups

Based on information from the respondents on foods eaten 1 weekday and 1 weekend day by family members, the total day's food intake on a weekday of over 60 percent of all household members, 5 years of age and older, included one or more servings of food from each of the four basic food groups (table 3). Data on actual amounts of foods consumed by each household member were not obtained, but the number of servings of each food consumed by each household member was obtained. Over 90 percent of this population had foods from at least three of the four basic food groups. The total day's food intake of almost everyone, 97 percent, included food from at least two of the four basic food groups. The incidence of having a full assortment of foods would have been much larger had it not been for the more than 20 percent of household members missing the milk group from their weekday food intake.

Weekend eating habits were similar to those of weekdays in groups of food consumed. Approximately 60 percent of all household members consumed one or more foods from each of the four basic food groups.

Calculations based on food groups on a weekday from meals only reveal that 55 percent of all individuals had diets containing a full assortment of foods (table 3). An additional 36 percent of the household members had diets containing foods from three groups, 27 percent of whom missed the milk group.

On weekend days the food intake from meals only was similar to weekdays. Slightly more than 50 percent of the people consumed a full assortment of foods, and 37 percent had diets containing foods from three of the four basic food groups. Thirty percent of all persons missed the milk group.

Between-Meal Eating on Weekday and Weekend Day

More than two-thirds of all individuals ate or drank something between meals on both

TABLE 3.—*Food and beverage intake of household members, 5 years and older, on weekday and weekend day by combination of food groups, based on total day's intake and on meals only*¹

Combination of food groups	Household members intake on—	
	Weekday	Weekend day
	Percent	Percent
TOTAL DAY'S INTAKE		
All 4 groups	62	59
3 out of 4 groups:		
All but milk	22	25
All but vegetable-fruit	4	4
All but meat	3	2
All but bread-cereal	2	2
Total	31	33
2 out of 4 groups	4	5
1 out of 4 groups	(²)	(²)
Don't know ³	3	3
MEALS ONLY		
All 4 groups	55	52
3 out of 4 groups:		
All but milk	27	30
All but vegetable-fruit	3	1
All but meat	2	2
All but bread-cereal	4	4
Total	36	37
2 out of 4 groups	5	7
1 out of 4 groups	(²)	(²)
Don't know ³	3	3

¹ Based on 7,463 household members.² Less than 1 percent.³ Respondent unable to provide any information.

weekday and weekend days. Between-meal eating or snacking during weekdays contributed considerably to having a variety of foods from the four basic food groups, a difference from 55 to 62 percent (table 4). Of particular importance was the increased milk consumption from weekday between-meal eating. Increases for the other three food groups were smaller.

Proportion of household members eating foods from all four basic food groups on the weekend day was raised from 52 to 59 percent by between-meal eating. The contribution of between-meal eating to particular food groups was similar to that made on weekdays; milk consumption again showed the largest net in-

crease among the four basic food groups (table 4).

Frequency of Serving Foods From Four Basic Food Groups

To determine whether respondents were taking advantage of the wide variety of food choices available, the frequency of serving specific foods in each of the four basic food groups was obtained (table 5).

As reported earlier, only 6 percent of household members were missing the bread-cereal group from their total daily food intake (table 4). Bread was served every day in 90 percent of the households. About 10 percent of household

TABLE 4.—*Food and beverage intake of household members, 5 years and older, on weekday and weekend day by food groups, based on total day's intake, meals only, and between meals*

Food and beverage	Household members reporting—		
	Total day's intake	Meals only intake	Between-meal intake
	Percent	Percent	Percent
WEEKDAY			
Food group:			
All 4 groups -----	62	55	1
Bread-cereal -----	94	92	33
Meat -----	93	93	7
Vegetable-fruit:			
Citrus fruit, juice -----	50	47	7
Dark-green leafy, deep-yellow vegetables --	12	12	(¹)
Potatoes -----	49	47	5
Other vegetables, fruits -----	79	77	14
Milk -----	71	65	25
Beverages other than milk and fruit -----	39	24	23
Sugars and sweets -----	29	22	10
Alcohol -----	9	3	7
WEEKEND DAY			
Food group:			
All 4 groups -----	59	52	(¹)
Bread-cereal -----	92	91	28
Meat -----	93	93	6
Vegetable-fruit:			
Citrus fruit, juice -----	46	44	5
Dark-green leafy, deep-yellow vegetables --	10	10	(¹)
Potatoes -----	55	52	6
Other vegetables, fruits -----	76	74	13
Milk -----	67	60	24
Beverages other than milk and fruit -----	41	27	23
Sugars and sweets -----	26	20	7
Alcohol -----	11	5	8

¹ Less than 1 percent.

members were missing meat, fish, poultry, or eggs from their total daily food intake. The high proportion of individuals having the meat, poultry, fish, or eggs included in their daily food intake was mainly due to a combined usage of meat and eggs. Poultry was served one or more times a week by 70 percent of the households, dried peas and beans by 55 percent, and fish by less than half of the households (table 5). Eggs were served in 93 percent of the households one or more times a week.

In the vegetable-fruit group, citrus fruit or juice was the most frequently served, with 56

percent of the respondents saying they served it daily. The least popular choice was deep-yellow vegetables, which only 5 percent of the respondents served daily. However, one inconsistency between these data and reported food intake was observed. Although 21 percent of the respondents said they served dark-green leafy vegetables every day and 5 percent indicated they served deep-yellow vegetables daily, only 12 percent of the household members had food intakes that included foods from either of these categories (table 4). This may be due to the respondents erroneously including lettuce

TABLE 5.—*Frequency of serving selected foods and beverage by respondents*

Food and beverage	Proportion of respondents serving—							
	Every day	4-6 days a week	2-3 days a week	Once a week	2-3 times a month	Once a month	Less often	Never
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Meat	72	19	7	1	(¹)	(¹)	(¹)	(¹)
Fish	(¹)	1	9	36	19	15	12	7
Poultry	1	3	23	43	18	7	3	2
Eggs	39	18	27	9	4	1	1	1
Beans, peas, dried	8	5	22	20	11	11	11	12
Dark-green leafy vegetables	21	14	23	16	8	5	5	8
Deep-yellow vegetables	5	7	28	28	13	8	5	6
Potatoes	23	22	31	13	5	3	2	1
Citrus fruit, juice	56	12	13	6	4	2	3	4
Other fruits	40	15	22	9	5	3	3	3
Milk	84	5	4	2	(¹)	1	1	3
Other milk products	34	18	24	11	5	2	2	3
Bread	90	4	4	2	(¹)	(¹)	(¹)	(¹)
Cereal	44	13	18	7	3	3	4	8
Pasta	(¹)	2	18	36	22	12	5	5
Rice	3	3	12	19	20	17	14	12

¹ Less than 1 percent.

or some other vegetables in the category of dark-green leafy vegetables or individual members not eating the vegetable served.

Milk was second to bread in households in which it was served every day, 84 percent as compared with 90 percent. Other milk products were served daily in one-third of the households. Since this food group was missing from more individual daily diets than any other, the availability of milk or milk products at home apparently was not the reason for its absence from the total daily food intake of so many household members.

For each of the 16 categories of food listed, the mean frequency of serving was calculated. Since the data were collected in terms of time categories rather than as an actual time continuum, the mean cannot be interpreted as a specific frequency. Thus the mean values for the various groups of foods are only interpreted relative to each other. The mean frequency of serving selected foods was as follows:

<i>Selected foods</i>	<i>Mean¹</i>
Bread	6.8
Meat	6.6
Milk	6.5
Citrus fruit, juice	5.8
Eggs	5.6
Other fruits	5.4
Other milk products	5.3
Potatoes	5.2
Cereal	5.2
Dark-green leafy vegetables	4.4
Deep-yellow vegetables	3.9
Poultry	3.9
Pasta	3.4
Beans, peas, dried	3.4
Fish	3.0
Rice	2.8

¹ 7=every day, 6=4-6 days a week, 5=2-3 days a week, 4=once a week, 3=2-3 times a month, 2=once a month, 1=less often than once a month, 0=never.

Bread, meat, and milk were served most often with about equal average frequency. Six food categories, including citrus fruit or juice, eggs, other fruits, other milk products, potatoes, and cereal, had the next highest mean frequency.

Foods for Between-Meal Eating

Foods and beverages the respondents reported having on hand for between-meal eating were as follows:

<i>Food and beverage</i>	<i>Respondents (percent)</i>
Food group:	
Bread-cereal	71
Milk	57
Meat	21
Vegetable-fruit:	
Citrus fruits	48
Dark-green leafy, deep-yellow vegetables	2
Potatoes	21
Other vegetables and fruits	45
Beverages other than milk and fruit	48
Sugars and sweets	18
Alcohol	9
None	4

The foods in the bread-cereal group were the most frequently mentioned, by 71 percent of the respondents. The mean of these 10 listed items kept on hand for between-meal eating in each household was 3.4.

The milk group was reported available for snacking in 57 percent of the households. Combining this information with the fact that 84 percent of the respondents said they served milk daily (table 5), it would seem that personal choice, not unavailability, was the reason so many people did not include the milk group in their daily food intake. The choice of food kept for between-meal eating may be the deciding factor as to whether a full assortment of foods is available for the day's food intake.

Respondents reporting foods and beverages kept on hand for between-meal eating by combination of food groups were as follows:

<i>Combination of food groups</i>	<i>Respondents (percent)</i>
All 4 groups	6
3 out of 4 groups:	
All but meat	24
All but vegetable-fruit	4
All but milk	3
All but bread-cereal	2
Total	33
2 out of 4 groups:	
Bread-cereal and vegetable-fruit	16
Milk and bread-cereal	9

Milk and vegetable-fruit	7
Meat and bread-cereal	2
Milk and meat	1
Meat and vegetable-fruit	1
Total	36

1 out of 4 groups:	
Vegetable-fruit	7
Bread-cereal	6
Milk	3
Meat	1
Total	17

Other foods not in 4 groups	14
No foods kept on hand	4

¹ Includes respondents reporting sugars and sweets or alcoholic beverages only.

Most respondents, 96 percent, reported having some foods and beverages on hand for their families to eat or drink between meals. When they were classified into food groups, 6 percent of the households had foods from all four groups available for between-meal eating and 33 percent had foods from three of the four groups.

Opinions Regarding Food and Nutrition**Opinion on Family Members Eating Right Kinds of Food**

In response to the question "Is anyone in this household not eating all the kinds of food you think he or she should have?" 85 percent of the respondents believed that everyone in their families was eating all the kinds of food they should. Only 15 percent indicated that all or some members were missing some foods needed for a nutritionally desirable diet. Everyone expressed a definite opinion.

The respondents were then asked which family members were not eating all the kinds of food they should have and what foods were missing from their diets. Respondents said 93 percent of the household members were missing no foods. The foods reported as missing from diets of the remaining 7 percent of household members were as follows:

<i>Food group</i>	<i>Household members (percent)¹</i>
Fruit-vegetable:	
Dark-green leafy, deep-yellow vegetables	5
Citrus fruits	2
Other vegetables and fruits	4

Milk	1
Meat	1
No foods missing	93
¹ Total more than 100 percent because more than 1 response is possible.	

Only 1 percent of the individuals were missing the milk group in their diet. Data presented previously (table 4) showed that 30 percent of all individuals, 5 years of age and older, were missing the milk group from their day's food intake on the 2 days recorded.

Approximately one-half of those aware of household members not eating a variety of foods are taking no action, as shown in the following response:

Action	Respondents (percent) ¹
None	8
Encourage member to eat	4
Substitute other foods	3
Other	1
Everyone is eating all the kinds of foods they should	85

¹ Total more than 100 percent because more than 1 response is possible.

About 3-4 percent attempted to substitute other foods or encouraged the family member to eat.

Opinion on Family Members Eating Sufficient Food

Respondents were also asked whether they thought all those members who were eating a variety of foods were eating enough servings of them. Almost 90 percent of all respondents believed that all household members were eating enough servings of a variety of foods. Fruits and vegetables, rather than milk, were most frequently identified as the foods being eaten in too small a quantity.

More respondents, 6-7 percent, attempted to substitute servings of another food or to encourage household members to eat more servings of a food than tried to encourage them to eat a food initially, as shown in the following data:

Action	Respondents (percent) ¹
None	9
Substitute other foods	7
Encourage member to eat	6
Other	2

Everyone is eating enough of all the foods they should 78

¹ Total more than 100 percent because more than 1 response is possible.

Opinion on Between-Meal Eating

Respondents were asked what they thought of household members' between-meal eating. Their response was as follows:

Response	Respondents (percent)
Favorable:	
Good for nutritional and health reasons	27
Snacking accepted; part of normal eating habits	13
Unfavorable:	
Bad for nutritional and health reasons	17
Snacking not good, but cannot do anything about it	3
Snacking at a minimum; causes no real problem; snacking kept to a minimum	32
Other	1
No snacking	4
Don't know or no answer	3

Over 25 percent of the respondents volunteered that snacking was good for nutritional or health reasons and 17 percent stated the opposite. In total, 40 percent considered between-meal eating favorably, 20 percent unfavorably, and 40 percent expressed no concern one way or the other.

Factors Affecting Meal Planning

Respondents were shown a list of factors that could affect the types of foods selected for meals, such as available storage space, food budget, time to prepare a meal, modified diets, family likes, nutrition or balanced meals, and the need to offer a variety of food during a week. From this list they reported which items were given consideration, which were given major consideration, and which caused them a major problem when planning meals (table 6).

Many considerations enter into the average respondent's decision in meal planning. Serving balanced or nutritionally desirable meals and family likes were the most common considerations, followed by the need to offer a variety of food and the amount of money in the food budget. The factor most frequently mentioned as being of major consideration was balanced meals, followed by family likes and staying within the food budget.

TABLE 6.—*Respondents' considerations and problems relative to various factors in meal planning*

Factors	Respondents' reaction to factors		
	Consideration ¹	Major consideration	Major problem ¹
	Percent	Percent	Percent
Balanced meals -----	68	36	7
Family likes -----	68	24	11
Offering a variety of food during a week -----	55	9	12
Staying within food budget -----	49	13	21
Weight control -----	38	6	12
Time for preparing a meal -----	36	5	11
Special diet other than for weight control -----	16	5	6
Storage space -----	12	(²)	3
None of these items -----	3	1	30
No answer -----	(²)	1	1

¹ More than 1 answer possible.² Less than 1 percent.

The major problem in meal planning for 21 percent of the households was the food budget. About 70 percent of the respondents mentioned a problem. For most respondents, only one factor caused a problem, not a combination of factors. Thirty percent of the respondents indicated that they had no problems with any of the factors listed or any other factors they could mention.

Opinion on Food Preparation Time

Respondents were asked how much time they spent in preparing meals on weekdays and on weekends (table 7). For weekday meals, about 25, 35, and 85 percent of the respondents spent more than 15 minutes preparing breakfast, the midday meal, and the evening meal, respectively. Almost half of the respondents estimated they spent 1 hour or more preparing the evening meal. About 10 and 5 percent, respectively, spent 5 minutes or less on a weekday breakfast and midday meal. More than 10 percent of the respondents reported no time spent preparing a weekday breakfast and weekday and weekend midday meals. Possibly these meals are routinely skipped, or they are usually not eaten or prepared at home, or each family member prepares his own food and thus the respondent does not consider that she prepares these meals. Except for the evening meal, the respondents tended to

spend more time on meal preparation on the weekend than during the week.

When given a choice, most respondents would not want to change the amount of time they spend on meal preparation either on weekdays or on weekends (table 8). About 10 percent or less would like to spend either more or less time.

Opinion on Preparing Food "From Scratch"

All respondents were asked to give the advantages and disadvantages of preparing foods "from scratch" rather than preparing foods that were purchased as canned, frozen, or fully cooked. Almost half of the respondents stated that foods prepared from scratch had a better taste or flavor, as shown in the following list:

<i>Advantages of preparing food "from scratch"</i>	<i>Respondents (percent)¹</i>
Better taste or flavor -----	48
More economical -----	31
More nutritious -----	30
Fresher, more natural taste -----	12
Makes food preparation more personal and imaginative -----	10
Can control ingredients -----	9
Can season as desired -----	9
Can avoid preservatives and additives -----	5
More pleasing to family -----	5
Other advantages -----	11
No advantages -----	11
Don't know or no answer -----	2

¹ Total more than 100 percent because more than 1 response is possible.

TABLE 7.—*Amount of time respondents usually spent in preparing weekday and weekend meals*

Meal	Proportion of respondents spending indicated minutes preparing meals						
	0	1-5	10	15	30	45	60 and over
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
Weekday:							
Breakfast	11	12	18	35	19	2	3
Midday	17	6	15	24	19	3	14
Evening	3	1	2	8	22	14	49
Weekend:							
Breakfast	8	7	12	30	30	6	6
Midday	11	3	9	19	21	6	30
Evening	8	1	3	13	22	9	43

TABLE 8.—*Time respondent would like to spend on meal preparation as compared with time usually spent on weekday and weekend meals*

Meal	Preference as to time spent on meal preparation by proportion of respondents			
	Same amount of time as now spending	More time	Less time	No answer or don't know
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
Weekday:				
Breakfast	77	12	9	2
Midday	83	8	7	2
Evening	77	10	11	2
Weekend:				
Breakfast	83	7	9	1
Midday	82	7	9	2
Evening	82	6	10	2

Two other responses given by approximately one-third of the respondents were that foods prepared from scratch were both more economical and more nutritious. Only one-tenth said there were no advantages.

Time appears to be the single most important factor in using prepackaged foods. About 70 percent of the respondents volunteered that preparing foods from scratch was more time consuming, as shown in the following list:

<i>Disadvantages of preparing food "from scratch"</i>	<i>Respondents (percent)¹</i>
More time consuming	69
Need for basic ingredients causes problems ..	6
More expensive	6
Have to know about food and food preparation	4
Messier; need more dishes, pots, or pans ..	4
Too much work	3
Other disadvantages	11
No disadvantages	20
Don't know or no answer	2

¹ Total more than 100 percent because more than 1 response is possible.

The frequency of mentioning other specific disadvantages was 6 percent or less. Only 20 percent of the respondents indicated no disadvantages in preparing food from scratch.

Opinion on How To Spend Less on Food

Respondents were asked what they would do if they had to cut down on the amount of money spent on food. Their response was as follows:

<i>Ways to spend less for food</i>	<i>Respondents (percent)</i>
Buy—	
Different kinds	57
Smaller amounts	32
Lower quality	9
Don't know or no answer	2

Over half of the respondents said they would buy different kinds of food, 32 percent smaller amounts, and only 9 percent a lower quality.

Nutrition was the main reason volunteered by respondents for buying different kinds of foods. However, of those who selected "buy different kinds of foods," 47 percent recognized that a certain amount of food is needed and 11

percent recognized that similar food value can be obtained from different choices. Also among those who selected "buy different kinds of food," 38 percent believed that you cannot sacrifice on quality, and among those who selected "buy smaller amounts," 42 percent held a similar belief. Another major consideration of those citing smaller amounts was a perceived dislike among family members, 35 percent, for many different kinds of foods. Among those selecting "buy lower quality food," the most common reasons were that the family needs a certain amount of food, 49 percent, and the family will not eat many different foods, 36 percent.

Interest in Nutrition Information

All respondents were asked whether they were interested in having more information about nutrition. There is not a universal demand for more information about nutrition (table 9). Slightly less than 40 percent expressed a definite interest in having more information about nutrition, 30 percent would require some motivation for wanting nutrition information, and the remaining 30 percent would require a strong rationale.

Interest for nutrition information varied by household income and respondent's education and age. Respondents of households with incomes over \$15,000, 44 percent, expressed the greatest interest for more nutrition information. Respondents with grade school or less education, 29 percent, had the least interest in more information. As the age of the respondent increased, the interest in nutrition information decreased. Respondents under 45 years expressed a greater interest than those 65 years and over.

Probable Poverty Households

Demographic Variables

Based on the criteria used for defining poverty, 952 individuals in 304 households, or 12 percent of the total number of households, were considered to be in probable poverty. Probable poverty appears to be related to several demographic variables in addition to household in-

TABLE 9.—*Respondents' interest in more nutrition information by income, education, and age¹*

Category	Respondents	Proportion of respondents—		
		Definitely interested	Probably interested	Not interested
	<i>Number</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
U.S. total	2,545	39	31	30
Household income:				
Under \$6,000	860	39	27	34
\$6,000–\$9,999	638	37	32	31
\$10,000–\$14,999	654	37	36	27
\$15,000 and over	386	44	32	24
Total	2,538	---	---	---
Education of respondent:				
Grade school or less	535	29	27	44
Some high school	505	43	33	24
High school graduate	866	37	35	28
Some college or more	632	45	28	27
Total	2,538	---	---	---
Age of respondent:				
Under 25	280	44	38	18
25–44	953	43	35	22
45–64	908	38	28	34
65 and older	399	25	25	50
Total	2,540	---	---	---

¹ Individual categories do not add to U.S. total as all respondents did not furnish all information.

come, including head of household, education and race of respondent, community size, region, and household size, as shown in table 10.

Three-fourths of these households had family incomes under \$3,000 compared with 7 percent of the not probable poverty households. Almost one-fourth of the heads of household were unemployed, one-fifth were retired, and one-eighth were widows. The respondent was head of household in 54 percent of the probable poverty households and in only 21 percent of the not probable poverty households. The respondent in the probable poverty household was more likely to have a grade school education or less than other respondents. The greater percentage of respondents from both probable and not probable poverty households were "whites, other than Spanish American."

Households in probable poverty were most frequently located in nonmetropolitan areas, were in the South, and had three or more members. Households of the other group were most frequently in metropolitan areas, were in all regions, and had two to four members.

Nutrition Knowledge and Food Facts

On the statements designed to measure awareness of general nutrition facts as well as specific knowledge about the selection, handling, and preparation of food, 2 percent of the probable poverty respondents answered all 18 statements correctly and 3 percent of the not probable poverty (table 11). The mean number of correct responses was 13.0 for probable poverty compared with 14.5 for the not probable poverty respondents.

TABLE 10.—*Proportion of respondents from probable poverty and not probable poverty households relative to various demographic variables¹*

Demographic variables	Probable poverty households (N=304)	Not probable poverty households (N=2,241)
	<i>Percent</i>	<i>Percent</i>
Household income:		
Under \$3,000 -----	75	7
\$3,000-\$4,999 -----	18	10
\$5,000 and over -----	7	83
Head of household:		
Respondent -----	54	21
Other -----	46	79
Education:		
Grade school or less -----	53	17
Some high school -----	26	19
High school graduate -----	18	36
Some college or more -----	3	28
Race:		
White:		
Spanish American -----	11	4
Other -----	58	88
Black -----	30	7
Other race or no answer -----	1	1
Community size:		
Large metropolitan -----	25	39
Small metropolitan -----	30	35
Nonmetropolitan -----	44	27
Region:		
Northeast -- -----	15	28
North central -----	25	29
South -----	52	27
West -----	8	15
Household size (members):		
1 -----	23	14
2 -----	20	30
3-4 -----	27	36
5 or more -----	30	20

¹ Percentages may not total 100 because of rounding.

TABLE 11.—*Distribution by score of probable poverty and not probable poverty respondents on 18 nutrition and food facts statements*

Statements correctly answered	Probable poverty respondents	Not probable poverty respondents
	<i>Percent</i>	<i>Percent</i>
18	2	3
17	5	9
16	9	17
13-15	51	50
12 or less	33	21

When the probable poverty respondents were asked to evaluate the five daily food plans in terms of their being nutritionally desirable or not, 1 percent correctly identified all five and 9 percent identified four out of five plans. Of the not probable poverty respondents, 2 percent correctly identified all five and 16 percent identified four out of five plans (table 12). The mean number of correct identifications was 2.66 for probable poverty and 2.72 for not probable poverty respondents.

TABLE 12.—*Distribution by score of probable poverty and not probable poverty respondents on nutritional desirability of 5 daily food plans¹*

Food plans correctly identified	Probable poverty respondents	Not probable poverty respondents
	<i>Percent</i>	<i>Percent</i>
5	1	2
4	9	16
3	58	45
1-2	28	36

¹ Percentages may not total 100 because some respondents did not identify any food plans correctly.

Opinion on Family Eating Practices

Approximately 77 percent of the probable poverty and 78 percent of the not probable poverty respondents thought all family members were eating the kinds of food they should and the minimum number of servings needed. Most respondents of both groups who did not

think all family members were eating as they should reported doing nothing about it.

Between-meal eating was an accepted part of normal eating habits in 18 percent of probable poverty and 13 percent of not probable poverty households. Foods that probable poverty respondents usually had on hand for snacking were breads and cereals by 65 percent of the households and milk and milk products by 49 percent. Similar amounts of these foods were reported by the not probable poverty households. However, 7 percent more probable poverty than not probable poverty households had no food or beverage on hand for between-meal eating.

Opinion on Food Planning and Purchasing

Staying within the food budget was the most important factor considered when planning menus by 37 percent of the probable poverty respondents and also the factor that caused them, 44 percent, the greatest problem. Family likes and balanced meals were factors considered but did not present the problem that staying within the food budget posed, whereas 38 percent of the not probable poverty respondents considered balanced meals the most important factor in planning meals and only 18 percent considered staying within the food budget as a problem.

Probable poverty respondents reported that 42 percent would buy different kinds of food, 35 percent smaller amounts, and 20 percent lower quality food if they had to spend less for food. The not probable poverty respondents reported that 25 percent would buy different kinds of food and 8 percent lower quality food as the way to decrease the food budget. Similar reasons were given by both groups for the way they would spend less for food. The most common reason was the family needs a certain amount of food, followed by the family will not eat many different kinds of food.

Opinion on Food Preparation Time

Most respondents of both groups reported that they were satisfied with the amount of time spent in preparing the food for each meal on the weekday and on the weekend day. Slightly more of the probable poverty respondents spent

30 minutes or more preparing breakfast on weekdays and slightly more of them spent 30 minutes or less preparing the midday and evening meal than the not probable poverty group. More respondents from both groups spent 30 minutes or more preparing each meal on the weekend than spent 30 minutes or less.

Opinion on Preparing Food "From Scratch"

There was little difference in the opinions expressed by the respondents from probable poverty and not probable poverty about the advantages of food prepared "from scratch." Over half of the respondents considered food prepared from scratch to have a better flavor and about one-third considered it to be more economical. When the disadvantages of preparing food from scratch were considered, more probable poverty households reported no disadvantages and fewer said the preparation was more time consuming than the not probable poverty respondents.

Opinion on Nutrition Information

The source for information on nutrition most frequently mentioned by probable poverty respondents was mother or grandmother, followed by high school and newspapers and magazines. Not probable poverty respondents reported high school most often as the source of nutrition information, followed by newspapers and magazines and mother or grandmother. More probable poverty respondents, 44 percent, said they were definitely interested in having more information about nutrition than not probable poverty respondents, 38 percent. About equal numbers of both groups were not interested in having more information on nutrition.

Implications for Nutrition Education

(1) At one time the homemaker was indeed the "gatekeeper" for the food the family ate. Formerly when all family members ate most meals at home, the homemaker knew what each member ate and could have foods available for meals or between-meal eating to make up for those rejected.

With day care centers, nursery schools, school lunches, and all the facilities available in the community for eating, not only does the home-

maker not have the opportunity to greatly influence choices but also she may or may not know what the various members eat. Thus each family member must be taught how to select wisely a variety of foods for each day.

(2) Because nutrition education must be geared to all family members, a satisfactory long-range plan is necessary in sequential nutrition education—multidisciplinary and integrated into other areas of learning—in the elementary and secondary schools. Until these programs are undertaken and in operation, such organizations and groups as 4-H clubs, Boy Scouts, Campfire Girls, outpatient clinics, and adult community centers have an opportunity to include nutrition education as a component of their programs. Coordination of programs can be achieved by community nutrition committees or councils.

(3) Homemakers have a fair knowledge of food and nutrition facts, but they have a very limited facility in using these facts to select meals and snacks for a desirable daily food intake. With the way people live and work today, the homemaker needs to think in terms of the day's total food intake, which she does not seem to do. Nutrition education is needed to help homemakers gain the needed facility in selecting foods for the home from the foods her family will eat so as to at least provide a desirable nutritional foundation. Then the foods or meals eaten away from home that she does not know about become an integral part of the day's food intake.

(4) Most homemakers seem to believe that all family members are eating well—are getting a good assortment of foods in desirable amounts. A comparison was made of the homemakers who considered their family members were eating well and those who recognized that some family members were not eating as they should. This comparison showed little difference in quality of choices made. A little more than half of all family members from both groups were making desirable choices during the day. However, the belief that all is well makes nutrition education unnecessary in the minds of many homemakers.

(5) All homemakers are not interested in getting more information on nutrition. Slightly

more than a third reported they wanted more information. Whether they would take the time and make the effort to attend meetings for this purpose or even to read printed material on the subject is not known. On the other hand, about a third said they were not interested in more information. Thus nutritionists face great challenges in developing and conducting nutrition education programs. Every tool possible must

be used to motivate behavioral change, since this is our primary objective rather than doling out information that may or may not be welcome.

(6) Probable poverty families need the same kind of help that other families need plus help in food money management. All educational programs for them should include a variety of graphic materials and many demonstrations.

SUMMARY

Information was obtained on homemakers food and nutrition knowledge, attitudes, practices, and opinions from a probability sample of all private households in the conterminous United States. A total of 2,545 interviews were completed in 1971. The individual household member with major responsibility for the decisions on food purchasing was personally interviewed by trained personnel.

Most respondents were 25-64 years of age. Their education ranged from less than grade school to through college, with the largest number being high school graduates. Household income ranged from under \$3,000 to over \$15,000, with 34 percent below \$6,000. Of the total number of households, 12 percent were considered in probable poverty. Respondents with household income under \$6,000 were more likely to be 65 and over and to have had a grade school education or less.

More respondents reported they learned about nutrition in high school than from any other source, with newspapers or magazines and mother or grandmother the next common source of information. When asked about their interest in more information on nutrition, about 40 percent expressed a definite interest, 30 percent showed a slight interest, and the rest were not interested or undecided.

Almost all respondents knew how to handle and store foods to maintain nutritional quality. However, on application of nutritional knowledge, less than half understood the need for a variety of foods and for varying amounts of food dependent on the age and sex of the household members. Most homemakers thought in

terms of specific food types needed rather than of a good assortment of foods in sufficient quantities.

Homemakers reported about three-fifths of all household members had food intakes from all four basic food groups on the 1 weekday and 1 weekend day reported. The fact that a full assortment of foods was not included in some food intakes appears to be a matter of choice on the part of individual members rather than the unavailability of a given food in the home.

More homemakers believed that all members of the household were eating all the kinds of food they should have and in sufficient quantity than was actually found on the reported food intakes. Milk in some form was the food group most often found to be lacking. When asked what foods were missing, only 1 percent correctly named milk as the missing food group for their household members.

Over half of the homemakers reported they would buy different kinds of food if they wanted to spend less on food, one-third would buy less food, and one-tenth would buy lower quality food.

The probable poverty households differed from the not probable poverty households in several demographic variables. The family income of three-fourths of the households was below \$3,000. Over half of the respondents had a grade school education or less. Also, over half of the heads of household were unemployed, retired, or widows and over half of the respondents were heads of household. The households were more frequently located in the South, were in nonmetropolitan areas, and had three or more members.

Responses from probable poverty and not probable poverty households were similar regarding opinions on nutrition and food facts and on family food habits and practices. When they deviated slightly, the difference often was

related to the problem of too little money or to less education. The family food budget was the primary consideration and the major problem in menu planning and food purchasing for the probable poverty households.

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APPENDIX

CROSSLEY SURVEYS, INC.
909 Third Avenue
New York, New York 10022

#14702 July, 1971
Time Interview Began: _____
Approval expires March 30, 1972
Bureau of Budget #12-14-100 - 10350 (62)

FOOD STUDY

READ

Hello. I am _____ of Crossley Surveys, an independent marketing research firm. We are conducting a study on behalf of the United States Department of Agriculture about individual eating habits and homemakers' opinions of various kinds of foods. Are you the person who usually decides which foods to buy for household use? (IF NO, ASK:) May I speak with the person who usually makes the decisions about which foods to buy?

1. We would like to begin this interview by talking about individual eating habits. So, the first thing we would like to know is the age and sex of all members of this household - including yourself - starting with the oldest one. (RECORD BELOW)

2. Let's talk about the most recent weekday which would give us a fairly accurate picture of this household's usual weekday eating habits. (PAUSE) What weekday do you have in mind?

Yesterday ☐ _____ Last _____ DAY OF WEEK DAY OF WEEK

5-

FOR EACH HOUSEHOLD MEMBER, ASK:

a. How many meals did (MEMBER) have on that day either at home or away from home? (RECORD BELOW)

b. At about what time during the day were they eaten and which ones, if any, were eaten at home? (RECORD BELOW)

c. Please tell me in detail what (MEMBER) ate and drank at each one of those meals. Let's start with the first one at (TIME). (RECORD BELOW)

Now, let's discuss the second meal. (RECORD BELOW) And the third meal? (RECORD BELOW)

d. What else, if anything, did (MEMBER) eat or drink that day? Be sure to include all snacks and beverages, alcoholic as well as non-alcoholic. (RECORD BELOW)

e. What is the approximate height and weight of (MEMBER)? (RECORD BELOW)

f. Would you say that (MEMBER) is generally overly particular about foods he/she eats or does he/she eat almost everything? (RECORD BELOW)

(Q.1) House- hold Members (Age & Sex)	(Q.2a) Num- ber of Meals Eaten	(Q.2b,c) Time, Place and Details of <u>1st Meal</u>	(Q.2b,c) Time, Place and Details of <u>2nd Meal</u>	(Q.2b,c) Time, Place and Details of <u>3rd Meal</u>	(Q.2d) Other Food and Beverages	(Q.2e) Height & Weight	(Q.2f) Type of Eater Not Overly Overly Partic. Partic.
____ yrs. M <input type="checkbox"/> F <input type="checkbox"/>	# _____					H: _____ W: _____ lbs.	<input type="checkbox"/> <input type="checkbox"/>

6-
7-
8-
9-

10- 11- 12- 13-	14- 15- 16- 17-	18- 19- 20- 21-	22- 23- 24- 25-
<div> <div> <div></div> <div></div> </div> <div> <div>H: _____</div> <div>W: _____ lbs.</div> </div> </div>	<div> <div></div> <div></div> </div> <div> <div>H: _____</div> <div>W: _____ lbs.</div> </div>	<div> <div></div> <div></div> </div> <div> <div>H: _____</div> <div>W: _____ lbs.</div> </div>	<div> <div></div> <div></div> </div> <div> <div>H: _____</div> <div>W: _____ lbs.</div> </div>
<div> <div>_____ yrs.</div> <div> <div></div> <div></div> </div> <div>M</div> <div>F</div> </div> <div># _____</div>	<div> <div>_____ yrs.</div> <div> <div></div> <div></div> </div> <div>M</div> <div>F</div> </div> <div># _____</div>	<div> <div>_____ yrs.</div> <div> <div></div> <div></div> </div> <div>M</div> <div>F</div> </div> <div># _____</div>	<div> <div>_____ yrs.</div> <div> <div></div> <div></div> </div> <div>M</div> <div>F</div> </div> <div># _____</div>

3. Now, we would also like to get a fairly accurate picture of your family's weekend eating habits. Let's take last Sunday as a typical example.

26-②

TRANSCRIBE ALL HOUSEHOLD MEMBERS FROM GRID ON PAGES 2 AND 3 TO GRID BELOW.

FOR EACH HOUSEHOLD MEMBER, ASK:

- How many meals did (MEMBER) have on that day, either at home or away from home? (RECORD BELOW)
- At about what time during the day were they eaten and which ones, if any, were eaten at home? (RECORD BELOW)
- Please tell me in detail what (MEMBER) ate and drank at each one of those meals. Let's start with the first one at (TIME). (RECORD BELOW) Now, let's discuss the second meal. (RECORD BELOW) And the third meal? (RECORD BELOW)
- What else, if anything, did (MEMBER) eat or drink that day? Be sure to include all snacks and beverages, alcoholic as well as non-alcoholic. (RECORD BELOW)

(Q.1) Household Members (Age & Sex)	(Q.3a) Number of Meals Eaten	(Q.3b,c) Time, Place and Details of 1st Meal	(Q.3b,c) Time, Place and Details of 2nd Meal	(Q.3b,c) Time, Place and Details of 3rd Meal	(Q.3d) Other Food And Beverages
<u> </u> yrs. <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px;">M</div> <div style="border: 1px solid black; padding: 2px;">F</div> </div>	# <u> </u>				

27-
28-
29-

30-
31-
32-

33-
34-
35-

36-
37-
38-

39-
40-
41-

# _____	# _____	# _____	# _____
_____ yrs. <div style="display: inline-block; width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></div> <div style="display: inline-block; width: 15px; height: 15px; border: 1px solid black;"></div> M F	_____ yrs. <div style="display: inline-block; width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></div> <div style="display: inline-block; width: 15px; height: 15px; border: 1px solid black;"></div> M F	_____ yrs. <div style="display: inline-block; width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></div> <div style="display: inline-block; width: 15px; height: 15px; border: 1px solid black;"></div> M F	_____ yrs. <div style="display: inline-block; width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></div> <div style="display: inline-block; width: 15px; height: 15px; border: 1px solid black;"></div> M F

4a. What, if anything, do you usually have on hand for members of your family to eat or drink between meals?

_____ 42-

b. What do you think about your family's between meal eating?

_____ 43-
 _____ 44-

5a. Is anyone in this household not eating all the kinds of food you think he or she should have? Everyone eating all the right foods Some/all not eating all the right foods

45-1
 -2

b. Which members are not eating all the kinds of food they should have? (RECORD BELOW)

c. What kinds of food are missing from (MEMBER'S) diet? (RECORD BELOW)

<u>Member</u>		<u>Foods Missing</u>
_____ yrs.	M <input type="checkbox"/> F <input type="checkbox"/>	_____
_____ yrs.	M <input type="checkbox"/> F <input type="checkbox"/>	_____
_____ yrs.	M <input type="checkbox"/> F <input type="checkbox"/>	_____
_____ yrs.	M <input type="checkbox"/> F <input type="checkbox"/>	_____
_____ yrs.	M <input type="checkbox"/> F <input type="checkbox"/>	_____

46-
 47-
 48-
 49-
 50-
 51-
 52-
 53-
 54-
 55-

d. What, if anything, are you trying to do about it? _____

e. (IF "NOTHING" IN Q.5d, ASK:) Why not? _____

56-
 57-

6a. Do you think all of those members who are eating the right kinds of food are eating enough of them?

All eating enough
Some/all not eating enough

58-1
-2

b. Which members are eating the right kinds of foods, but are not eating enough of them? (RECORD BELOW)

c. What kinds of food are eaten in too small a quantity by (MEMBER)? (RECORD BELOW)

Member		Foods Eaten In Too Small A Quantity
_____ yrs.	M <input type="checkbox"/> F <input type="checkbox"/>	_____
_____ yrs.	M <input type="checkbox"/> F <input type="checkbox"/>	_____
_____ yrs.	M <input type="checkbox"/> F <input type="checkbox"/>	_____
_____ yrs.	M <input type="checkbox"/> F <input type="checkbox"/>	_____
_____ yrs.	M <input type="checkbox"/> F <input type="checkbox"/>	_____

d. What, if anything, are you trying to do about it? _____

e. (IF "NOTHING" IN Q.6d, ASK:) Why not? _____

59-
60-
61-
62-
63-
64-
65-
66-
67-
68-

69-
70-

SHOW CARD A

7. Which one statement on this card best describes how often you serve (FOOD) to your family? (READ LIST AND OBTAIN FREQUENCY FOR EACH FOOD LISTED BELOW.)

		Frequency of Serving:							
		4-6	2-3	Once	2-3	Once	Less		
		Days	Days	A	Times	A	Often	Never	
		Every	A	A	A	A			
		Day	Week	Week	Week	A Month	Month		
A.	Meat	71-1	-2	-3	-4	-5	-6	-7	-8
B.	Fish	72-1	-2	-3	-4	-5	-6	-7	-8
C.	Poultry	73-1	-2	-3	-4	-5	-6	-7	-8
D.	Eggs	74-1	-2	-3	-4	-5	-6	-7	-8
E.	Beans or peas, like navy beans, split peas . .	75-1	-2	-3	-4	-5	-6	-7	-8
F.	Green leafy vegetables, like spinach or kale . . .	76-1	-2	-3	-4	-5	-6	-7	-8
G.	Dark yellow vegetables, like carrots or squash	77-1	-2	-3	-4	-5	-6	-7	-8
H.	Citrus fruit or juice, like orange or grapefruit . . .	78-1	-2	-3	-4	-5	-6	-7	-8
I.	Other kinds of fruit, like apples, pears	79-1	-2	-3	-4	-5	-6	-7	-8
		Col. 80 1							
		START CARD II							
J.	Bread	5-1	-2	-3	-4	-5	-6	-7	-8
K.	Cereal (Any kind)	6-1	-2	-3	-4	-5	-6	-7	-8
L.	Macaroni or spaghetti . . .	7-1	-2	-3	-4	-5	-6	-7	-8
M.	Rice	8-1	-2	-3	-4	-5	-6	-7	-8
N.	Potatoes	9-1	-2	-3	-4	-5	-6	-7	-8
O.	Milk	10-1	-2	-3	-4	-5	-6	-7	-8
P.	Other milk products like cheese or yogurt	11-1	-2	-3	-4	-5	-6	-7	-8

SHOW CARD B

- 8a. Which, if any, of the things on this card do you think about in planning meals for your family? Just read the letters opposite the statement on the card.
- b. What other things, if any, do you think about that are not listed on this card?

IF ONLY ONE THING MENTIONED IN Q.8a and 8b, SKIP TO Q.8d

- c. Which one thing, if any, is most important to you in planning your family's meals?
- d. Which of these things, if any, cause you problems in planning meals for your family?

Things	(Q.8a) Think About	(Q.8c) Most Important	(Q.8d) Are A Problem
A. Storage space	12-1	13-1	14-1
B. Staying within food budget	-2	-2	-2
C. Time you have to prepare a meal	-3	-3	-3
D. Weight control	-4	-4	-4
E. Other special diet	-5	-5	-5
F. Family likes	-6	-6	-6
G. Balanced meals	-7	-7	-7
H. Offering a variety of food during a week	-8	-8	-8
(Q.8b) I. Others (SPECIFY):			
_____		<input type="checkbox"/>	<input type="checkbox"/>
_____		<input type="checkbox"/>	<input type="checkbox"/>
_____		<input type="checkbox"/>	<input type="checkbox"/>

FOR EACH MEAL LISTED BELOW, ASK:

9a. How much time do you usually spend preparing (MEAL)?b. How much time would you like to be able to spend preparing (MEAL)?

	<u>Q.9a</u> <u>Usually Spend</u>	<u>Q.9b</u> <u>Like To Spend</u>
Breakfast on a weekday	15-	21-
Breakfast on a weekend	16-	22-
Midda y meal on a weekday	17-	23-
Midda y meal on a weekend	18-	24-
Evening meal on a weekday	19-	25-
Evening meal on a weekend	20-	26-

10a. What advantages, if any, can you see for yourself in preparing foods "from scratch" rather than preparing foods that were bought canned, frozen or fully cooked?
(PROBE)

b. What disadvantages, if any, are there to you in preparing foods "from scratch"?
(PROBE)

SHOW CARD C

- 11a. Suppose you wanted to cut down on the amount of money spent for food. Which one of the ways listed on this card comes closest to describing how you would do it?
- Buy a lower quality of food . . .

Buy smaller amounts of food . . .

Buy different kinds of food . . .

31-1

-2

-3
- b. Please give me an example of what you would do? _____
- _____
- c. What are your reasons for cutting down that way rather than one of the other ways listed on the card?
- _____ 32-
- _____ 33-
- _____

SHOW MENU CARDS

- 12a. Here are several kinds of menus that could be served to your family for a day. Will you look at each one and say whether or not you consider it to be a well-balanced diet for a day?
- b. What makes you think that (MENU) is/is not a well-balanced daily diet? (PROBE FOR NUTRITIONAL REASONS NOT PERSONAL TASTE PREFERENCES.)

Menu	(Q.12a) Opinion		(Q.12b) Reasons for opinion
	Well-Balanced	Not Well-Balanced	
A	34-1	-2	39-
B	35-1	-2	40-
C	36-1	-2	41-
D	37-1	-2	42-
E	38-1	-2	43-

13. When you hear the term "enriched" foods, what foods come to mind?

14. I am going to read you some statements and for each one please tell me whether you agree or disagree. If you don't know, please do not hesitate to say so.

- | | |
|----------------------------------------------------------------------|---------------------|
| a. Good nutrition is necessary for good health. | Agree46-1 |
| | Disagree . . . -2 |
| | Don't know . . -3 |
| b. Nutrition is the food you eat
and how your body uses it. | Agree47-1 |
| | Disagree . . . -2 |
| | Don't know . . -3 |
| c. Older people need just as much
food as teenagers. | Agree48-1 |
| | Disagree . . . -2 |
| | Don't know . . -3 |
| d. Women and girls need just as
much food as men and boys. | Agree49-1 |
| | Disagree . . . -2 |
| | Don't know . . -3 |
| e. Food is the only source for the
energy needed to work or play. | Agree50-1 |
| | Disagree . . . -2 |
| | Don't know . . -3 |

HOMEMAKERS' FOOD AND NUTRITION KNOWLEDGE, PRACTICES, AND OPINIONS 35

f. Active people need more food than inactive people.	Agree 51-1 Disagree . . -2 Don't know . -3
g. Some foods by themselves have all the nutrients in the amounts needed for full growth or health.	Agree 52-1 Disagree . . -2 Don't know . -3
h. Each nutrient has specific uses in the human body.	Agree 53-1 Disagree . . -2 Don't know . -3
i. Most nutrients do their best work in the body when teamed with other nutrients.	Agree 54-1 Disagree . . -2 Don't know . -3
j. Some foods can lose nutrient value by the way they are stored.	Agree 55-1 Disagree . . -2 Don't know . -3
k. To help prevent losses in vitamins and minerals, vegetables should be cooked in as little water as possible and until just tender.	Agree 56-1 Disagree . . -2 Don't know . -3
15. Where did you learn about nutrition? (DO <u>NOT</u> READ LIST)	Grammar school 57-1 High school -2 College -3 Newspaper, magazine -4 Mother, grandmother -5 Doctor or other professional source -6 Other (<u>SPECIFY</u>): _____ -0
<u>SHOW CARD D</u>	
16. Which one statement on this card best describes your interest in having more information about nutrition?	I definitely would be interested . 58-1 I probably would be interested . . -2 I might, might not be interested . -3 I probably would not be interested -4 I definitely would not be interested -5

SHOW CARD E

17. Here is a list of statements that describes some attitudes and opinions people have about food. For each statement please tell me if you agree with it, or disagree with it. If you don't know, please don't hesitate to say so. Just read me the letter of the statement before you give me your opinion.

	<u>Agree</u> <u>With</u>	<u>Disagree</u> <u>With</u>	<u>Don't</u> <u>Know</u>
A. Some fruits and vegetables do not require refrigeration - a cool place will do.	59-1	-2	-3
B. Ordinarily you can get all the vitamins you need from a well-chosen variety of foods that can be purchased in any well-stocked food store.	-5	-6	-7
C. You can lose weight by cutting down on the amounts of food eaten instead of cutting out any kinds of food.	60-1	-2	-3
D. Refreezing frozen foods is not a good practice; they lose some of their good quality. They also may not be safe to eat.	-5	-6	-7
E. To keep the best quality, all kinds of meat should be put in the refrigerator or icebox as soon as possible after they are bought.	61-1	-2	-3
F. The darker outer leaves of vegetables like lettuce or cabbage should be used because they are especially rich in nutrients.	-5	-6	-7
G. Snacking can help meet nutritional needs.	-9	-0	-x

Finally, I would like to ask you some questions for statistical purposes.

18. Which of the following kitchen appliances do you use? (READ LIST)	Blender or mixer . . .	62-1
	Refrigerator or ice box	-2
	Range (burners and oven)	-3
	Can opener (any kind)	-4
	Toaster	-5
	Freezer (any kind) . .	-6

19a. What is the occupation of the head of this household?

63-

b. In what industry is that? _____

c. At what time does he usually leave for work and at what time does he usually get home?

Leave: _____ AM PM Come Home: _____ AM PM 64-

IF RESPONDENT IS HEAD OF HOUSEHOLD, SKIP TO Q.21

20a. Are you employed?

Yes 65-1

No -2

SKIP TO Q.21

b. Is that full time or part time?

Full time -4

Part time -5

c. How many days a week do you usually work? # _____ 66-

d. What is your occupation? _____ 67-

e. In what industry is that? _____

f. At what time do you usually leave for work and at what time do you usually get home?

Leave: _____ AM PM Come Home: _____ AM PM 68-

SHOW CARD F

21. About how many hours do you spend during an average week in the activities listed on this card?

No. of Hours

General housework _____

Chauffeuring or taking the children around for their activities . . . _____

Shopping (other than for food) . . _____

Club or organization meetings . . . _____ 69-

Church activities _____

Participation in sporting activities _____

Watching TV _____

General socializing with friends, neighbors _____

22. In what state or states did you live during your childhood and early teens?

70-

Finally, just a few more background questions and this will complete the interview.

23. What was the last grade you completed in school?

SCHOOL: None 1 2 3 4 5 6 7 8 9 10 11 12 71-

COLLEGE: 1 2 3 4 OTHER (AFTER 12TH GRADE): _____ 72-
(SPECIFY)

SHOW CARD G

24. For statistical purposes, we need to know which group your household income is in. Please look at this card and tell me the letter that shows your household's total annual income for 1970 before taxes. You should count all kinds of income for every member of the household living here -- such as wages, interest, dividends, net income from any business, etc. (IF RESPONDENT REFUSES OR DOESN'T KNOW CHECK THE BOX LABELED REFUSED/DON'T KNOW. THEN ESTIMATE THE INCOME RANGE BY LETTER CODE IN THE SPACE PROVIDED.)

A. Under \$3,000	73-1	G. \$9,000 - \$9,999	74-1
B. \$3,000 - \$4,999	-2	H. \$10,000 - \$10,999	-2
C. \$5,000 - \$5,999	-3	I. \$11,000 - \$11,999	-3
D. \$6,000 - \$6,999	-4	J. \$12,000 - \$12,999	-4
E. \$7,000 - \$7,999	-5	K. \$13,000 - \$14,999	-5
F. \$8,000 - \$8,999	-6	L. \$15,000 and over	-6

Refused/Don't Know ☐ Estimated Income _____

25. Race: (BY OBSERVATION)

Spanish American . 75-1

26. Socio-Economic Classification (BY OBSERVATION)

Other white -2

Negro or black . . -3

Other race -4

A ☐ B ☐ C ☐ D ☐

Respondent's Name _____ Area _____ 76-
Tel.No. Code() _____ 77-
78-

Address _____ City _____ State _____ 79-

Farm ☐ Non-Farm ☐

Col. 80 (2)

PSU#

For Office Use Only

Community
Size: _____

Interviewer _____ Date _____ Val.by: _____ Date _____

Time Interview Ended: _____